

Dam Water Monitoring System Using IOT

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Abstract - Heads are one of the major water sources for irrigation, electricity generation etc. in India. Heads play a vital part since the time of colonialism. Lack of proper levee operation system have been causing several losses including the recent cataracts. Inspired by the being pastoral and socio-profitable problems, an innovative and doable automatic control system can be developed for levee operation purposes. This paper also proposes a new idea of collecting and participating real-time information about water situations to the people living hard its bank. Largely precise water position monitoring system and timely report to the position is also developed. When the water position crosses the threshold condition, alert dispatches will be transferred to the people and the shutters will open automatically, retaining water to its normal position. Timely warnings to every person living in the position and timely opening of shutters can thereby reduce the pitfalls of loss of life and help disasters. Hence, robotization of levee system using ESP8266, ultrasonic detector-mail, creates a new eye for both the Government as well as the people in the position for creating mitigation plans.

Key Words: ESP8266, Power supply, Ultrasonic sensor, transformer, Relay module, Buzzer.

1. INTRODUCTION

In India nearly 4000 major/medium dams are constructed and many more are in a pipeline. Normally, the range of dam storage capacity of 185 billion cubic meters of water with a surface area of 5,580km (93.4TMCft). During rainfall, for every 9.6mm the rise of water level increases by 0.3ft. In the recent analysis by the BC dam safety annual report, from the year 2011-2016 number of dam incidents, dam alerts and dam failures are decreased respectively. With the growing interest in Internet of Things has become a right choice for the pre-alert system for monitoring the rise in the water level in dams. The risk rate of sudden flood occurrence opened up a way for the way the need of the real-time dam water level monitoring and prior alerting system which ensures the public safety. The main purpose of the system carries out an advantage of transfer of information both of the cloud and public smartphone using local Wi-Fi.

1.1 Objective

The main end of this system is to cover the water position at pastoral areas so that they help in detecting the

destruction of water and measures can be taken to avoid gratuitous overflowing of water in the areas where monitoring is a delicate task.

1.2 Deliverables

The LED and buzzer on when the particular water position is detected. position of water is detected by Ultrasonic detector. We've defined 4 situations at 20, 40, 60 and 85 and whenever water reaches the separate situations the LED at that position will glow contemporaneously transferring Dispatch and bepee. Buzzer is sounding's

2. LITERATURE REVIEW

Various efforts have been made until now in monitoring water level and accordingly controlling dam gate. The contribution of work in this area is mentioned below,

1) 1) IoT grounded water force monitoring and controlling system Water is a introductory need of every human being. Everyone needs to save the water. Numerous times with lack of monitoring, overflow of the water takes place. Overflow of tanks can do because of these lots of water wasted. Another thing is because of overflow in the channels with further pressure there's possibility of channel damage. Leakage discovery is one further problem. All these problems are because of lack of monitoring, homemade work and lower man power. In this paper a check of Aurangabad megacity and field check have been done, to understand water force distribution and affiliated problems with the system. After taking a check they observed that all the work is homemade and need a better technology to make proper distribution.

2) Wireless disaster monitoring and operation system for Heads. This paper suggests armature to control gate by covering high viscosity and also communicate in real time.

Considering the recent events that took place on June 2013, a imperishable situation has taken place due to heavy downfall and pall bursting at colorful places. Numerous heads were out of knowledge on colorful parameters about the inflow and discharge from the nearer heads which were affected before and due to lack of communication among these heads, lead to considerable damage of property and life.

3) The main ideal of this paper is to control the water position. In levee which was enforced using IoT(Internet of effects). The design perpetration and control of the

programmed monitoring system was developed by this design. The cradle of the design is grounded on methodology of IOT. For stylish results, the principle operation of the automatic gate control arrangement is subordinated to dry handling under colourful possible circumstances, with Proteus as the platform for working. Pi grounded water monitoring and alert system

This paper deals with the automatic control of a swash system. The system is a waterfall of single input-single affair (SISO) systems, and can be considered as a single input-multiple affair (SIMO) system.

5) IOT Based Water Level Monitoring System For Lake In this paper they've introduced the idea of water position monitoring and operation for lake water storehouse source for town lets. More specifically, they've introduced the jeer-pi as regulator for water position seeing and controlling in a wired and wireless terrain. Likewise, it can indicate the quantum of available water in the lake. This system is grounded on GSM technology. Also, cellular phones with relative high calculation power and high quality graphical stoner interface came available lately. From the druggies perspective it's needed to exercise similar precious resource in a mobile operation. Eventually, paper has proposed a web and cellular grounded monitoring service protocol for monitoring available water in lake.

[2] This paper deals with brief explanation of using aurdino to automate the homes. The being system of the Bluetooth system of robotization limitations was anatomized to prove that android and Aurdino make up for a better system of robotization. The tackle and software specifications are also explained.

[3] A prototype for Water Level Monitoring is developed for detecting water position through the internet. A central device like microprocessor connects to the internet and receives orders to control detectors. A garçon manages the druggies and bias. Android operation acts as a front-end to interact.

[4] The cloud is a platform that connects things around us so that one can access any device anywhere in a user-friendly manner. Applications that use devices such as sensors need immense space to store volumes of big data with huge computation power for real-time processing. This paper proposes a method of automation where the cloud uses the SHA-1 and Naive Bayes algorithm. The pall is a platform that connects effects around us so that bone can pierce any device anywhere in a stoner-friendly manner. Operations that use bias similar as detectors need immense space to store volumes of big data with huge calculation power for real-time processing. This paper proposes a system of robotization where the pall uses the SHA-1 and Naive Bayes algorithm.

[5] This paper presents the design and perpetration generalities for a wireless real-time Water position monitoring system grounded on Arduino Uno microcontroller as central regulators. The proposed system has two functional modes.

i) manually-automated mode in which the user can monitor and control the home appliances from anywhere in the world using the cellular phone through Wi-Fi communication technology.

ii) selfautomated mode that makes the controllers be capable of monitoring and controlling different appliances in the home automatically in response to the signals comes from the related sensors. A hardware implementation with Matlab-GUI platform for the proposed system is carried out to show the reliability of the system thus making it a simple, cost-effective and flexible resulting as a good candidate for the smart city future.

[6] The being system presents a low cost and flexible water position monitoring system using an bedded microprocessor and microcontroller, with IP connectivity for penetrating and controlling bias and appliances ever using Smartphone operation. The proposed system doesn't bear a devoted garçon PC with respect to analogous systems and offers a new communication protocol to cover and control the home terrain with further than just the switching functionality.

[7] The need to pierce and control IOT bias is described.

For security purposes similar as avoiding cyber-crime authentication mechanisms are proposed like

i) Trailing medium for access control,

ii) Label Assignment,

iii) Picky Publication; eventually describing the way of the algorithm followed.

[8] Low cost and flexible Water level monitoring system are discussed. An embedded micro web server in Arduino is used with IP connectivity to access and control devices.

[9] This paper delineates about the existing Water level monitoring system using IR Sensors Also proposal of using the Android Smartphone to control devices using the Wi-Fi as a communication protocol thus creating a friendly interface force communication between the Raspberry Pi server and the Android device.

[10] Illustration of the method to automate the Water level monitoring using the secure Wi-Fi technology that acts as a server is shown. Various systems that can be monitored are temperature and humidity, motion detection.

3. CONCLUSIONS

By the growth of IoT platform in various fields encourages the reduction of human life loss and damages to the properties caused by both natural and human-made disasters. The key advantage of IoT paved the way for dynamic safety with high level accuracy in performance and feasible nature data analytics. Adoption of new technology conveys the proper condition about the mishap. The response of the system is fast for the change in input. Thus, the study provides an IoT based monitoring and alerting of dam water level by using various past research contributions and issues remedy mechanisms which enables the smart warning technique for public safety.

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